

LMTCE-WIPT

NAVAIR Environmental Program



The Environmental Systems
Allocation (ESA) Program



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A product of the
Lead Maintenance Technology
Center for the Environment (LMTCE)
Working Integrated Product Team (WIPT)
(904) 542-0516, x-122

The Environmental Systems Allocation (ESA) program is a Windows-based, user friendly, database program that provides environmental, safety, and health (ESH) information and data from organizational (O) and intermediate (I) level Naval Aviation maintenance operations. The Naval Facilities Engineering Service Center (NFESC) in conjunction with the Lead Maintenance Technology Center for the Environment (LMTCE) Working Integrated Product Team (WIPT) developed the ESA program to provide Program Managers (PMs) with information on the environmental impact of their systems. The ESA program provides summaries of hazardous materials usage and hazardous waste generation information and traces that information back to the appropriate weapons systems, work centers, activities, industrial processes, and/or materials. This information is then used to determine the ESH impact and costs associated with Fleet aviation maintenance processes. PMs can use ESA analyses to modify their system designs and/or the industrial processes and hazardous materials they use to maintain their aircraft.

Why Is ESA Needed?

1. ESA can help PMs understand the impact their systems are having on the environment. The PMs cannot make informed pollution prevention (P2) changes unless they understand the environmental impact of their systems.
2. ESA can help PMs identify P2 opportunities. NAVAIR Program Managers (PMs) have the ultimate responsibility for their systems and are the appropriate authorities to direct the necessary process changes to achieve P2 at the source.
3. ESA can leverage available information. The ESA program takes advantage of the extensive P2 information that has already been collected at each Navy installation on a "fence line" basis.
4. ESA can distribute information about environmental impacts to the right program. ESA can allocate the existing P2 information to weapons platforms that will provide the PMs with systems-specific information. This feature can be used to build program specific Hazardous Materials Authorization Use Lists (HMAULs).



The ESA Methodology

The ESA program is constructed through a four-step process that includes:

1. Collection of central data (including data from the Naval Aviation Logistics Data Analysis (NALDA) database, information from Hazardous Waste Annual Reports (HWARs), fence line data from P2 plans, Federal Logistics (FEDLOG) data, and (HMIS data),
2. Collection of field data (including data collection through field visits to various activity AIMDs and squadrons),
3. Evaluation and analysis of field data (including the allocation of environmental impacts to individual weapon systems), and
4. Preparation of platform- or activity-specific reports.

Primary Sources Of ESA Program Data

The ESA program contains four primary sets of information:

1. Hazardous and non-hazardous material use data,
2. Waste stream data (including water, solid waste, hazardous waste, and recycled waste),
3. Compliance data (including Toxic Release Inventory (TRI) and permitting data), and
4. Cost data (including costs of materials management, and waste disposal).

The ESA program uses maintenance workload information from the NALDA database maintained by NAVAIR 3.0 as well as "fence line" environmental data collected directly from the Fleet. The NALDA database contains information regarding maintenance operations, such as number of items processed, identification of work centers, type of maintenance, and the amount of man-hours spent on maintenance.

For information pertaining to hazardous material and hazardous waste, the ESA program relies on data from field activity P2 plans, targeted field data collection efforts, and activity hazardous material centers that use Hazardous Materials Control System (such as HICS or HSMS) and/or a Consolidated Hazardous Reutilization and Inventory Management Program (CHRIMP). For information regarding material properties, constituents and costs, the ESA program uses data collected from Material Safety Data Sheets (MSDSs), Federal Logistics (FED LOG) data, and the Hazardous Material Information System (HMIS).

What The ESA Program Does

The ESA program analyzes the data and determines the environmental impact by linking the impact to the system platform, activity, work center/shop, material and/or material ingredient. By using the workload information from NALDA, the ESA program can allocate hazardous materials and waste streams to similar work centers that do not have data. This allocation factor is a defining attribute of the ESA program. This feature will alleviate the problem of requiring comprehensive data calls, resulting in an expedient "more-cost-effective" database program and analysis tool. To date, this tool has been used in a variety of applications to help support ESH evaluations for several programs. The following is a short list of some of the past uses of the ESA program.

- To support ESH evaluations (AV-8B, H-60, F/A-18),
- To generate Hazardous Materials Management Plans (HMMPs),
- To conduct impact analyses,
- To support cost benefit analyses for environmental technology research and development programs,
- To assess the probable impacts of proposed regulation (e.g. Federal Register), and
- To help identify and target high material usage products and waste streams for support of the NAVAIR Environmental Acquisition Targets (NEAT) guide and General Series Manual ESH reviews.

Future Plans & Summary

This Windows-based tool is currently being updated to enhance the material usage and waste/emissions generation as well as program modifications. Depot level material usage and waste generation data will be incorporated by the end of FY00 or beginning of FY01. It is anticipated that an updated version on CD-ROM will be available by the end of FY00. In addition to ongoing work to maintain the ESA database, work is also being done to link the ESA database with a number of cost modeling programs and the pollution prevention plan database.

In summary, the ESA program is invaluable for determining the environmental impact of O, I, and D - level maintenance operations. The program can be used to identify and quantify hazardous material use and hazardous waste generation for individual weapon systems, work centers, or activities. This information can then be used to identify pollution prevention opportunities.

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